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(54) Title: TREATMENT FOR DIABETES

(57) Abstract

Methods and compositions for treating diabetes mellitus in a patient in need thereof are provided. The methods include administering to a patient a composition providing a gastrin/CCK receptor ligand, e.g., a gastrin, and/or an epidermal growth factor (EGF) receptor ligand, e.g., TGF-α, in an amount sufficient to effect differentiation of pancreatic islet precursor cells to mature insulin-secreting cells. The composition can be administered systemically or expressed *in situ* by cells transgenically supplemented with one or both of a gastrin/CCK receptor ligand gene, e.g., a preprogastrin peptide precursor gene and an EGF receptor ligand gene, e.g., a TGF-α gene. The methods also include transplanting into a patient cultured pancreatic islets in which mature insulin-secreting beta cells are proliferated by exposure to a gastrin/CCK receptor ligand and an EGF receptor ligand.